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Repair

What if your solution was designed to be repairable?

Product repair involves returning a product to good working condition by replacing or repairing major components that are faulty or close to failure, and making 'cosmetic changes' to update the appearance of a product, using methods such as resurfacing, repainting, etc.

Reuse

What if your solution enabled reuse?

Reuse is the action or practice of using an item, whether for its original purpose or to fulfill a different function, thereby re-functioning the item. It should be distinguished from recycling, which is the breaking down of used items to make raw materials for the manufacture of new products.

Recycle

What if your solution used recycled materials?

Recycling is the process of converting waste materials into new materials and objects. Recycling can prevent the waste of potentially useful materials and reduce the consumption of fresh raw materials, thereby reducing energy usage, air pollution, and water pollution.

Remanufacturing

What if your solution could be remanufactured?

Remanufacturing is the repair or replacement of worn-out or obsolete components and modules. Remanufacturing is a form of a product recovery process that differs from other recovery processes: a remanufactured product should match the same user expectation as new products. Functioning, reusable parts are taken out of a used product and rebuilt into another.

Design for Disassembly

What if your solution was designed for disassembly?

Design for disassembly means working with materials in a manner that allows for material separation once the product is discarded or in need of repair. Products are designed intentionally for material recovery, value retention, and meaningful next use. It can e.g. be crucial to work with easy material indication and optimise for a short time for disassembly.

Design for Modularity

What if your solution was designed to be modular?

Design that is based on a modular approach. A product contains several separable pieces that can be assembled in different ways by the user. Design for modularity can also be a series of individual products that may be purchased and used alone, or collected, refurbished, remanufactured and/or assembled in different ways over time.

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Mono-Material

What if your solution only used one material?

A product composed of a single type of material or a product with components that each are made of a single type of material that can be split apart.

Upcycle

What if your solution gets a second life by being upcycled?

Upcycling is about reusing or redesigning products. It includes identifying potential second use scenarios or functions that the products/materials could become part of in a new use phase.

Upcycling is about transforming bi-products, waste materials and/or unwanted products into new materials, components or products of same or even higher quality or value.

Repurpose

What if your solution could serve a whole new purpose?

Repurposing is about identifying new possibilities for use of discarded products.

Repurposing requires thinking outside the box and possibly look for repurpose potential outside the industry you operate in.

Distribution

What if you distributed and transported differently?

Optimise and rethink the way goods are transported.

Considerations concerns reverse logistics, choosing local suppliers, minimisation of the weight of components. Other strategies can be selection of strong, robust and durable packaging with long lifespan that do not degrade during multiple transportation or could even be upcycled, reused etc.

Resell

What if you could resell products/parts?

Strategies for reselling can involve collaborations with partners about enabling reverse logistics aiming to achieve take back systems or establishing sharing solutions.

One can also establish second-hand markets for products and thereby enabling resell and directly reuse functioning products.

Collection

What if you ensured products were collected and sorted?

Consideration about collection and sorting of products after the use stage(s).

Societies are moving in a direction towards increased demands for collection and sorting of different materials e.g. textiles, plastic, metals etc. These aspects are (and will be) influenced by laws and regulations

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Refurbish

What if you repaired returned products and parts?

Refurbishing is about repairing returned products after a certain period of use so that it satisfies certain mechanical specifications and operating conditions within the limitations of what is considered acceptable. This is done by rebuilding or repairing major components that are close to failure. The main difference from remanufacturing is that refurbishment is usually less rigorous and costly and involves less dis/re-assembly.

Service Kits

What if your solution included a service kit?

A kit that contains tools, equipment and/or spare parts that helps users or companies to maintain and repair products.

Service kits serve to extend the use phase of products.

Take-Back Systems

What if you where able to get your products back?

A take-back system is when suppliers collect used products/parts/materials from users and make them go back to the same or a new loop of use.

Take-back can both be applied at the end of the product life time and/or be a service that enables to extend the current use cycle of products.

Sourcing

What if materials selected favoured the environment?

Sourcing is about the selection of resources and materials that go into product. When choosing materials, consider durability, renewability & recyclability.

You can also consider aspects such as where the materials originate from and how the working conditions are for the people dealing with the materials.

Manufacturing

What if your solution were manufactured for a circular purpose?

Manufacturing concerns improvement of circularity in production and considerations include:

How to favour cleaner production, equipment toxicity, production waste, design for reduced energy consumption and prioritising renewable energy.

Cascade

What if old materials could still be used?

Cascading is the sequential and consecutive use of resources. When cascading, new applications of processed materials usually have a lower demand for resource quality. It is important to consider the cascading process early in the design process.

A material starts its lifetime at the highest quality possible, and the material quality naturally declines over time.

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Monitoring Equipment

What if we reduce risks of breakdowns in products?

Devices that monitor the condition of a product or system. The equipment allows the user and/or supplier to carry out preventive maintenance and reducing the risk of breakdowns.

Monitoring conditions of products or systems can also give suppliers useful feedback for redesigning a product or system - this can be valuable when planning the overall technical services offered to users.

Spare parts on demand

What if parts are replaced when the user needs it?

Replacement of malfunctioning parts of a product or system that is delivered after the user contacts the supplier. The spare part on demand is offered on time where no formal agreement is needed. Sometimes, the supplier can act as a provider of other companies spare parts, centralising and simplifying the process for users. This type of agreement is the most common within spare parts services.

Spare Parts Owned by Supplier

What if users could exchange old products to new?

A service where users can exchange used or worn-out products, for a new or reconditioned part.
The new part will have the same quality, warranty and performance as the one installed previously and can be offered at a reduced price.
The supplier has the possibility of exchanging spare parts between different users.

Spare part kit

What if you could provide relevant actors with spare kits?

Package containing spare parts for a specific repair task.

The user can choose between different parts that form a spare kit - either from a supplier or sub-supplier depending on the task to be solved.

Upgrade

What if we extend the lifetime of the product via upgrades?

The product is still functional, but new changes, evolution and new features are added to extend the lifetime of products.

Upgrades can extend the product value by enhancing the function of an existing product sometimes beyond its original design condition. Potentially, it can also reduce value loss from continued use of parts and products.

Retrofit products

What if the product was updated when new contexts arise?

Retrofit is when you add new technology or features to existing products or systems. This can be due to new technology, market demands and/or regulations.
Users are ensured that when contexts change, action can be taken to adapt to the new context.
Retrofit activities can vary from being a simple adjustment to redesign of new solutions.

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Design for multifunctionality

What if products could fulfil multiple functions?

When designing products/services, consider how they could fulfil more than one function. Multi-functional products can potentially help reducing the overall amount of products and may be usable by different user groups.

Recover

What if the materials of your products could be recovered?

Energy recovery happens by incinerating materials since the material characteristics no longer satisfy any application whatsoever.
The recovery must happen only after materials have been recycled more than once.
The main problem when recovering materials is toxic smoke emitted by certain materials and additives that was added to the product.

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